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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/505,158 | 08/20/2004 | Kenji Mori | MUR-041-USA-PCT | 5704 |
| <div>7590 01/30/2008</div> <div>TOWNSEND & BANTA c/o PortfolioIP P.O. Box 52050 Minneapolis, MN 55402</div> | | | | |
| | | | EXAMINER HOLMES, REX R | |
| | | | ART UNIT 3762 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/505,158

Applicant(s)

MORI ET AL.

Examiner

Rex Holmes

Art Unit

3762

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 stand rejected under 35 U.S.C. 102(b) as being anticipated by Grossman et al. (U.S. Pat. 4,979,517 hereinafter "Grossman")
3. Grossman discloses an electrode with support having bending portions (Figs. 1-3), an electrode layer passing over the bending portions (Fig. 3, 16), and an insulating layer with a dielectric material that has a glass transition temperature below 25°C (12, "~-20°C"). Grossman further discloses that the bending portions are between 90 and 270 degrees (Figs. 1-3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2-5 and 9-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman as applied to claims 1 and 6-7 above, and further in view of Ikeda et al. (U.S. Pat. 5,582,697 hereinafter "Ikeda").

7. Grossman discloses the claimed invention except for the electrode layer being composed of either silver, silver chloride or carbon/carbon paste on base layer of polyethylene terephthalate. Ikeda teaches that it is known to use carbon paste, silver or silver chloride as the conductive element in an electrode as set forth in e.g. Column 5, ll. 15-24 to provide a conductive material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrode as taught by Grossman, with the carbon paste, silver or silver chloride as the conductive element as taught by Ikeda, since such a modification would provide the electrode with known conductive element to be sprayed on a base layer for providing a suitable electrode with high conductance.

8. Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman and further in view of Netherly (U.S. Pat. 5,947,961).

Grossman discloses the claimed invention except explicitly stating the thickness of the insulating layer and that the insulating layer is formed from screen printing.

Netherly discloses that the thickness of the insulating layer is between 0.5 micrometers

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to 100 micrometers and that it is screen printed on (Fig. 2, "26"; Col. 7, ll. 29-45; Col. 5, ll. 31-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electrode as taught by Grossman, with an thin insulating layer that is formed from screen printing as taught by Netherly, since it was known in the art that screen printing is a common method of creating electrodes and that it forms thin layers that are perfectly shaped from different patterns.

It is noted that Fig. 2, shows that the support layer 24 is 50 micrometers thick and the insulating layer 24 is the same thickness as the support layer.

9. Claims 1-6 and 9-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly et al. (U.S. Pat. 6,219,569 hereinafter "Kelly") and further in view of Grossman.

10. Kelly discloses an electrode comprised of an insulating layer (), a base composed of polyethylene terephthalate (Col. 5, ll. 49-52), a conductive portion formed of either silver or carbon or a paste made from a conductor (Col. 6, ll. 9-18), and wherein the layers of the electrode are formed by screen printing (Col. 3, ll. 38-44). Kelly discloses the claimed invention except for the insulator having a glass transition temperature of at least 25°C or below and bending portions that are between 90 and 270 degrees. However, Grossman discloses an electrode with support having bending portions (Figs. 1-3), an electrode layer passing over the bending portions (Fig. 3, 16), and an insulating layer with a dielectric material that has a glass transition temperature of at least 25°C or below (12, "~ -20°C"). Grossman further discloses that the bending portions are between 90 and 270 degrees (Figs. 1-3). It would have been obvious to

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one having ordinary skill in the art at the time the invention was made to modify the electrode as taught by Kelly, with bending portions and a dielectric with a very low glass transition temperature as taught by Grossman, since such a modification would provide the electrode with standard design with an increased dielectric for providing a flexible dielectric that can stand various temperature without becoming brittle and cracking.

Response to Arguments

11. Applicant's arguments filed 10/31/07 have been fully considered but they are not persuasive.

12. The Applicant argues that Grossman does not disclose an insulating layer made out of a dielectric material that has a glass transition temperature below 25°C. The Examiner respectfully disagrees. As discussed in the previous rejection and above, Grossman discloses an electrode with support having bending portions (Figs. 1-3), an electrode layer passing over the bending portions (Fig. 3, 16), and an insulating layer with a dielectric material that has a glass transition temperature below 25°C (12, "~ - 20°C"). As noted by the Applicant in their response, the material for the nonconductive layer is one with a high dielectric characteristic such as Polyethylene (see Applicants Remarks dated 10/31/07, page 6). Polyethylene is a dielectric and has a glass transition temperature of negative twenty degrees Celsius (*Engineered Materials Handbook—Desk edition*. (1995). ASM International. ISBN 0871702835. p. 369.).

13. A copy of page 369 of the Engineered Materials Handbook is included as a reference and is cited only as a secondary reference to show the glass transition temperature of polyethylene.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rex Holmes whose telephone number is 571-272-8827. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Rex Holmes
Examiner
Art Unit 3762


George Evanisko
Primary Examiner
Art Unit 3762

1/15/06